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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,637	12/14/2000	H. Peter Hofstee	AUS920000345US1	2284

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EXAMINER

LI, AIMEE J

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 03/04/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Ln

Office Action Summary

Application No.

09/737,637

Applicant(s)

HOFSTEE, H. PETER

Examiner

Aimee J Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-11 have been considered.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: Letter to Draftsman as received on 04 May 2001; Drawings as received on 16 August 2001; and Change of Address as received on 23- July 2002.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "504" and "604" have both been used to designate dual-pulse generators. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
5. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: page 4, lines 15 and 18 mention Figure 2A, which does not exist. Page 18, line 7 mention "Dual pulse generator 604"

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which does not exist in Figure 6. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-11 have been rejected under 35 U.S.C. 102(b) as being taught by Dean, U.S. Patent Number 5,544,342 (herein referred to as Dean).

9. Referring to claim 1, Dean has taught a two-phase data transfer protocol circuit for a micropipeline, said circuit comprising:

- a. A control element for generating micropipeline data transfer control signals according to a multiple phase protocol (Dean column 10, lines 48-49 and 51-57; column 23, lines 50-62; Figure 4; and Figure 14b); and
- b. A pulse generator connected to said micropipeline and operable to produce pulse signals responsive to both rising and falling edges of said data transfer control signals (Dean column 19, lines 41-43; column 23, lines 23-37; Figure 10; and Figure 12).

10. Referring to claim 2, Dean has taught a level-sensitive latch for holding and propagating data through said micropipeline (Dean column 8, lines 17-18; column 10, lines 47-6; column 15, lines 14-36; Figure 2; Figure 4; and Figure 9).

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11. Referring to claim 3, Dean has taught wherein said pulse generator is a dual-pulse generator that delivers a data transfer pulse to said level-sensitive latch in response to both said rising edge and said falling edge of said data transfer control signals (Dean column 23, lines 23-37; Figure 10; and Figure 12).

12. Referring to claim 4, Dean has taught wherein said control element is a Muller C-element (Dean column 15, lines 14-36; column 21, lines 42-46; column 22, line 55 to column 23, line 5; Figure 9; and Figure 10).

13. Referring to claim 5, Dean has taught wherein said pulse generator comprises:

- a. A logic gate having a first input and a second input, wherein said first input is connected to the output of said control element (Dean column 23, lines 22-37 and Figure 12); and
- b. A delay element connected between the output of said control elements and said second input, wherein a pulse is produced at the output of said logic gate in accordance with the delay imparted on said data transfer control signal by said delay element (Dean column 23, lines 22-37 and Figure 12).

14. Referring to claim 6, Dean has taught wherein said logic gate is a XOR gate (Dean column 23, lines 22-37 and Figure 12).

15. Referring to claim 7, Dean has taught wherein said delay element comprises an even number of inverters (Dean column 23, lines 50-62; column 50, lines 22-28 and 50-56; Figure 12; Figure 13; Figure 39; Figure 40; and Figure 41). In regards to Dean, the delay element is adjusted to delay the desired amount of time, so, when the system wants to delay equivalent to a gate, then four inverters will be used.

16. Referring to claim 8, Dean has taught a micropipeline comprising:
 - a. A plurality of C-elements for providing sequential data transfer control among a plurality of data processing stages within said micropipeline (Dean column 15, lines 14-36; column 21, lines 42-46; column 22, line 55 to column 23, line 5; Figure 9; and Figure 10);
 - b. A plurality for latches for holding and propagating data through said plurality of processing stages (Dean column 8, lines 17-18; column 10, lines 47-6; column 15, lines 14-36; Figure 2; Figure 4; and Figure 9); and
 - c. A plurality for dual-pulse generators for translating signal transition from the outputs of said C-elements into latch control pulses for said plurality of latches (Dean column 19, lines 41-43; column 23, lines 23-37; Figure 10; and Figure 12).
17. Referring to claim 9, Dean has taught a method for implementing a two-phase data transfer protocol between stages in a micropipeline, said method comprising:
 - a. Generating a data transfer control signal for transferring data to a next micropipeline stage (Dean column 10, lines 48-49 and 51-57; column 23, lines 50-62; Figure 4; and Figure 14b); and
 - b. Converting both a rising edge and a falling edge of said data transfer control signal into a pulse signal such that said micropipeline transfers data during both said rising edge and said falling edge (Dean column 19, lines 41-43; column 23, lines 23-37; Figure 10; and Figure 12).

18. Referring to claim 10, Dean has taught holding and propagating data through said micropipeline utilizing a level-sensitive latch (Dean column 8, lines 17-18; column 10, lines 47-6; column 15, lines 14-36; Figure 2; Figure 4; and Figure 9).

19. Referring to claim 11, Dean has taught wherein said micropipeline includes a Muller C-element for generating said data transfer control signal (Dean column 15, lines 14-36; column 21, lines 42-46; column 22, line 55 to column 23, line 5; Figure 9; and Figure 10), and wherein said converting a rising edge and a falling edge of said data transfer control signal into pulse signals is performed utilizing a dual pulse generator (Dean column 19, lines 41-43; column 23, lines 23-37; Figure 10; and Figure 12), said method further comprising:

- a. Applying said data transfer control signal from said Muller C-element to the input of said dual pulse generator (Dean column 15, lines 14-36; column 21, lines 42-46; column 22, line 55 to column 23, line 5; Figure 9; and Figure 10); and
- b. Delivering said data transfer pulses from said dual pulse generator to said level-sensitive latch in response to a rising edge and a falling edge of said data transfer control signal (Dean column 23, lines 23-37; Figure 10; and Figure 12).

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made. Applicant must also show how the amendments avoid such references and objections. See 37 CFR § 1.111(c).

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- a. Paver, U.S. Patent Number 5,574,925, has taught a pipeline with latches and Muller C-elements.
- b. Ranganathan et al., U.S. Patent Number 5,587,672, has taught a pipeline with latches dependent on pulse signals.
- c. Molnar et al., U.S. Patent Number 5,937,177, has taught a pipeline with latches, Muller C-elements, and pulse signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J Li whose telephone number is (703) 305-7596. The examiner can normally be reached on M-T 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (703) 305-9712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJL
Aimee J. Li


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